CS 111: Operating System Principles
Syllabus
Fall 2021

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Description.   Lecture, four hours; laboratory, two hours; outside study, nine hours. Enforced requisites: courses 32, 33, 35L. Introduction to operating systems design and evaluation. Computer software systems performance, robustness, and functionality. Kernel structure, bootstrapping, input/output (I/O) devices and interrupts. Processes and threads; address spaces, memory management, and virtual memory. Scheduling, synchronization. File systems: layout, performance, robustness. Distributed systems: networking, remote procedure call (RPC), asynchronous RPC, distributed file systems, transactions. Protection and security. Exercises involving applications using, and internals of, real-world operating systems. Letter grading.

Schedule.   Class starts September 23th and ends December 3rd. Lectures will take place on in-person on Tuesdays and Thursdays from 8:00–9:50 AM PT. There are 3 lab sections, all taking place on Fridays. Please check your schedule for your specific time. The midterm exam is October 26th at 8 AM (during the lecture time period). The final exam is December 9 at 8 AM PT.

Evaluation.   This course contains 1 warm-up lab, 4 full labs, a midterm and final exam. The warm-up lab is worth 5% of your grade. Each following lab is worth 10% of your grade. The midterm is worth 24%, and the final exam is worth 30%. Finally, the class evaluation worth 1% and is done in the final week of classes. Your evaluation has impact on whether or not you get credit. You will need to evaluate myself and the TAs.

Lectures.   I'll primarily present the course material during the lectures. The lecture format will be updated from previous offerings, following the same general format. Lectures may be reorganized at my discretion. The book "Operating Systems: Three Easy Pieces" by Remzi Arpaci-Dusseau and Andrea Arpaci-Dusseau will complement the lectures.

Labs.   Submissions are done using Git. We will provide students with a Git repository, and you'll be required to push your code there for submission. Your submission time will be recorded, the state of your repository at the due date will be considered your submission. You will be given a total of 4 late days to use due to unforeseen circumstances. There will be no penalty for using late days. If you use 5 late days, your lowest lab grade will be halved. Any additional late days will cause you to receive a 0 on your latest lab and you will recoup the late days. I will try to give you the option that results in the highest grade. Due to this flexibility, there will be no additional late exceptions.

Discussion.   This term we will be using Slack (https://cs111-ucla.slack.com) for class discussion. I believe in and encourage public discussion. For private manners please email/DM myself or a TA instead.

Academic Honesty.   I expect you to follow the Student Conduct Code and the Student Group Conduct Code. I will not tolerate any cheating. It only hurts your learning, and your follow students. This includes posting your course Git repository to the public (e.g. on GitHub). Any cheating recieves a grade of 0 and disciplinary action. Note that this policy applies outside of this quarter as well.